

SIPUNCULA FROM THE ANDAMAN AND NICOBAR ISLANDS

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INTRODUCTION

Sipuncula of the Indian ocean have received considerable attention and 135 species and subspecies have been authentically recorded so far (Haldar, 1970).

However, the Sipuncula of the Andaman and Nicobar Islands are not so well known. Fifteen species of Sipuncula have been previously recorded from this area. These belong to 2 species of *Sipunculus* (Prashad, 1936), 3 species of *Siphonosoma* (Haldar,* 1970), 4 species of *Phascolosoma* (Haldar, 1970 and Johnson, 1971), 3 species of *Paraspidosiphon* (Johnson, 1964 and Haldar, 1970) and 1 species each of the genera *Themiste* and *Cloeosiphon* (Haldar, 1970) and *Phascolopsis* (Johnson, 1971).

The present work is based on the collection made by different survey parties of the Zoological Survey of India. The collections contain limited number of examples. The specimens examined are referred to nine species embraced in four genera, out of which six are new records (marked by asterisk) from the Andaman and Nicobar Islands. The list of species is as follows:

Family SIPUNCULIDAE

1. *Sipunculus nudus* Linnaeus
2. *S. robustus* Kefeferstin
- *3. *Siphonosoma* (*Siphonosoma*) *australe* (Keferstein)

Family PHASCOLOSOMATIDAE

4. *Phascolosoma andamanensis* Johnson
- *5. *P. nigrescens* Keferstein
- *6. *P. pacificum* Keferstein
- *7. *P. scolops* (Selenka & de Man)

Family ASPIDOSIPHONIDAE

- *8. *Paraspidosiphon klunzingeri* (Selenka & de Man)
- *9. *P. steenstrupii* (Diesing)

*Haldar, B. P., *Proc. Intern. Symp. Biology of Sipuncula, Kotor, Yugoslavia, 1970*, p. 19 (Abstr.)

SYSTEMATIC ACCOUNT

Family SIPUNCULIDAE

Sipunculus nudus Linnaeus

1767. *Sipunculus nudus* Linnaeus, *Systema Naturae*, 12th. ed., p. 1078.
 1883. *Sipunculus nudus*: Selenka *et al.*, *Semper's Reisen im Archipel der Philippinen*, (2) 4(1): 92-93.
 1889. *Sipunculus nudus*: Shipley, *Proc. zool. Soc. London*: 57.
 1904. *Sipunculus nudus*: Hérubel, *Bull. Mus. Hist. nat.*, 10: 563.
 1936. *Sipunculus nudus*: Prashad, *Rec. Indian Mus.*, 38 (2): 232-233.
 1952. *Sipunculus nudus*: Stephen & Robertson, *Proc. R. Soc. Edinb.*, Sec. B, 64: 432-433.
 1957. *Sipunculus nudus*: Wesenberg-Lund, *Bull. Sea Fish. Res. Stn. No.* 14: 2.

Material.—1 ex., Aberdeen Bay, Port Blair, S. Andaman, *K. K. Tiwari*, 18.3.59; 1 ex., Galathea river entrance, Great Nicobar Islands, "coral sandy beach", *A. Daniel*, 23.3.66.

Description.—Total length 130-150 mm., maximum width 9-11 mm; Skin thick and dull-brown in colour. Longitudinal muscle bands 31-33 and fused anteriorly in introvert region; ventral and dorsal retractors arise from 2-6 and 8-12 longitudinal muscle bands respectively. Intestinal convolutions 19 and fixed to body wall by a number of fixing muscles; rectal diverticulum present. Proximal one-fourth of nephridium attached to body wall by mesenteries.

Distribution.—In the Indian Ocean: Gulf of Aden, Gulf of Aqaba (Eylath & Ghardaqa), Zanzibar (Mbweni, Mtoni & Pwakuu), Andaman & Nicobar Islands, Malacca and Christmas Islands.

In other Oceans.—Kermadec Islands, Loyalty Islands, New Britain, Queensland, Ghina, Japan, East Indies, Philippines, Mediterranean Sea, North Sea, Lusitanian area, Atlantic coast of America, English Channel and West Indies.

Sipunculus robustus Keferstein

1865. *Sipunculus robustus* Keferstein, *Z. wiss. Zool.*, 15: 412.
 1883. *Sipunculus robustus*: Selenka *et al.*, *Semper's Reisen im Archipel der Philippinen*, (2) 4 (1): 97-99.
 1905. *Sipunculus robustus*: Lanchester, *Proc. zool. Soc. London*, 1: 27.
 1936. *Sipunculus robustus*: Prashad, *Rec. Indian Mus.*, 38(2): 233-235.
 1941. *Sipunculus robustus*: Stephen, *Scient. Rep. John Murray Exped.*, 7 (4): 402-404
 1952. *Sipunculus robustus*: Stephen & Robertson: *Proc. R. Soc. Edinb.*, Sec. B, 64: 433.
 1965. *Sipunculus robustus*: Stephen, *Bull. Sea Fish. Res. Stn. Israel*, No. 17: 82.
 1965. *Sipunculus robustus*: Cutler, *Cah. ORSTOM Oceanographie*, 3(4): 56.

Material.—1 ex., Ross Island, East of Aberdeen Bay, S. Andaman, "lying in the sandy beach", *H. C. Ray*, 26.3.52; -1 ex., Corbyn's cove, Port Blair, S. Andaman, *H. C. Ray*, 21.3.52.

Description.—Total length 140-165 mm., maximum width 32-35 mm; introvert one-third of trunk length; skin flesh coloured, bearing triangular scale-like papillae with apices directed downwards in introvert region but shows rectangular areas in trunk region; longitudinal

muscle bands 26-28; ventral and dorsal retractors originating from 2-5 and 9-12 longitudinal muscle bands respectively; intestinal convolution consists of 14-16 spirals and fixed to body wall by many fixing muscles; tuft-like organ and rectal diverticulum present; nephridia short and hang freely into body cavity.

Used as fisherman's bait in the Andamans.

Distribution.—In the Indian Ocean: Timor, Singapore, Mergui Archipelago, Andaman and Nicobar Islands, Madras, Maldive Islands, Gulf of Oman, Red Sea (Melita Bay and Gulf of Zulu), Zanzibar and Madagascar.

In other Oceans.—Japan, Queensland, New South Wales, West Indies, Wallis Islands, Billiton, Amboina, Uwea, Upolu, Nusa-Land, Norway, Spain and Cape of Good Hope.

Siphonosoma (Siphonosoma) australe (Keferstein)

1865. *Phascolosoma australe* Keferstein, *Nachr. Ges. Wiss. Gottingen.*, No. 7: 197.
 1905. *Sipunculus australis*: Lanchester, *Proc. zool. Soc. London*, 1: 30.
 1912. *Siphonosoma australis*: Spengel, *Verh. dt. zool. Ges.*, 22: 263.
 1936. *Siphonosoma australe*: Prashad, *Rec. Indian Mus.*, 38(2): 237-238.
 1952. *Siphonosoma australe*: Stephen & Robertson, *Proc. R. Soc. Edinb.*, Sec. B, 64: 435-436.
 1952. *Siphonosoma (Siphonosoma) australe*: Fisher, *Proc. U.S. natn. Mus.*, 102: 400.
 1963. *Siphonosoma australe*: Wesenberg-Lund, *Vidensk. Meddr. dansk naturh. Foren.*, 125: 103.
 1965. *Siphonosoma australe*: Cutler, *Cah. ORSTOM Oceanographie*, 3(4): 56.
 1970. *Siphonosoma australe*: Ganapati & Subba Rao, *Curr. Sci.*, 39(1): 12-13.

Material.—1 ex., Long Island, M. Andaman, "found crawling below a stone", K. K. Tiwari, 25.1.59.

Description.—Total length 200 mm., maximum width 10 mm; introvert about one-fourth of trunk length, provided with more than 50 rows of hooks; longitudinal muscle bands 18-19; ventral and dorsal retractors widely separated from each other; nephridia open in front of anus and hang freely at posterior end.

Distribution.—In the Indian Ocean: Zanzibar (Ghwaka Bay and Mbwani), Durban, Off Kosi Bay, Madagascar, Gulf of Mannar, Visakhapatnam Harbour and Penang.

In other Oceans.—Fiji Islands, Lifu & Loyalty Islands, Sydney, Philippines, Amboina and Roscoff.

Family PHASCOLOSOMATIDAE

Phascolosoma andamanensis Johnson

1971. *Phascolosoma andamanensis* Johnson, *J. Bombay nat. Hist. Soc.*, 68(3): 601-603.

Material.—5 exs., Little Andaman, "collected by breaking the coral rocks with hammer", B. P. Haldar, 17.3.71.

Description.—Maximum length and width 62 mm. and 12 mm. respectively; fully extended introvert three-fourths as long as trunk;

colour not uniform throughout, dorsal side of introvert with several bands, bands dark brown at anterior region and light brown near base but ventral surface white; anterior half of trunk white and posterior half blue while at posterior most end white. Marked constriction present at junction of introvert and trunk. Proximal part of introvert armed with hooks arranged in rings, number varying from 18 to 22; introvert bearing 18 to 20 finger-shaped tentacles at tip. Longitudinal muscle layer grouped into 18 to 20 rarely anastomosing bundles, muscle bands most prominent and clearly visible like ridges from point of origin of ventral retractors upto end of trunk but more flat and wider and have a tendency to fuse with skin from point of origin of dorsal retractors upto base of introvert. Dorsal and ventral retractors arise from 4th to 6th or 7th and 2nd to 5th longitudinal muscle bands respectively. Intestinal convolution having 22 spirals, coiling round a spindle muscle not attached to tip of posterior extremity but slightly behind it to body wall; polian vessel without villi; rectal diverticulum absent, anal aperture situated on dorsal surface of trunk close to introvert-trunk constriction. Nephridia light brown, proximal halves attached to body wall by mesenteries.

Distribution.—In the Indian Ocean: Port Blair (Andaman Islands).

Phascolosoma nigrescens Keferstein

1865. *Phascolosoma nigrescens* Keferstein, *Z. wiss. Zool.*, **15**: 424.
 1883. *Physcosoma nigrescens*: Selenka *et al.*, *Semper's Reisen im Archipel der Philippinen*, (2) **4** (1): 72-74.
 1895. *Phymosoma nigrescens*: Fischer, *Abh. Geb. Naturw., Hamburg*, **13**: 10-12.
 1903. *Physcosoma nigrescens*: Shipley, In Gardiner, *Fauna and Geography of the Maedive and Laccadive Archipelagoes*, **1**(2): 134.
 1904. *Phymosoma nigrescens*: Hérubel, *Bull. Mus. Hist. nat.*, **10**: 563.
 1905. *Physcosoma nigrescens*: Lanchester, *Proc. zool. Soc. London*, **1**: 30, 36.
 1912. *Physcosoma nigrescens*: Fischer, *Mitt. naturh., Mus. Hamb.*, **30**: 98.
 1913. *Physcosoma nigrescens*: Fischer, *Ibid.*, **31**: 2.
 1915. *Phymosoma nigrescens*: Hammerstein, *Ark. Zool.*, **9**(10): 1
 1921. *Physcosoma nigrescens*: Fischer, *K. svenska Vetensk-Akad. Handl.*, **61**(8): 4.
 1922. *Physcosoma nigrescens*: Fischer, *Ark. Zool.*, **14**(19): 14.
 1926. *Physcosoma nigrescens*: Fischer, In Michaelsen and Hartmeyer, *Die Fauna Südwest-Australiens*, **5**(3): 201-202.
 1941. *Physcosoma nigrescens*: Stephen, *Scient. Rep. John Murray Exped.*, **7**(4): 404.
 1942. *Physcosoma nigrescens*: Stephen, *Ann. Natal Mus.*, **10**(2): 248.
 1952. *Physcosoma nigrescens*: Stephen & Robert-son, *Proc. R. Soc. Edinb.*, Sec. B **64**: 436.
 1956. *Phascolosoma nigrescens*: Edmonds, *Aust. J. mar. Freshwat. Res.*, **7**(2): 289.
 1957. *Phascolosoma nigrescens*: Wesenberg-Lund, *Bull. Sea Fish. Res. Stn. Israel*, No. **14**: 7.
 1959. *Phascolosoma nigrescens*: Wesenberg-Lund, *Vidensk. Meddr. dansk naturh. Foren.*, **121**: 62.
 1963. *Phascolosoma nigrescens*: Wesenberg-Lund, *Ibid.*, **125**: 130.
 1965. *Phascolosoma nigrescens*: Stephen, *Bull. Sea Fish. Res. Stn. Israel*, No. **17**: 83.
 1965. *Phascolosoma nigrescens*; Cutler, *Cah. ORSTOM Oceanographie*, **3**(4): 57.

Material.—2 exs., Aberdeen jetty, S. Andaman, H. C. Ray, 14.3.52; 2 exs., Neil Island, S. Andaman, "from coral crevices", B. P. Haldar, 21.2.71.

Description.—Total length 40-42 mm. Colour pale brown but introvert base and distal end of trunk dark brown due to presence of crowded papillae, introvert provided with 25 rows of single pointed hooks having distinctly expanded clear streak without separate triangular space. 20 longitudinal muscle bands at anterior and posterior ends but 24 in middle of trunk. 2 pairs of retractor muscles, ventral pair stouter than dorsal pair. Nephridia short and anterior two-thirds fixed to body wall.

Distribution.—In the Indian Ocean: Red Sea (Koseir & Gundabilu Island), Gulf of Aqaba, Gulf of Aden, S. E. Coast of Arabia, Mozambique, Zanzibar, Natal, Durban, Cape Province (East London & Mossel Bay), Madagascar (Nosy Be, Tulear & Makamby), Mauritius, Chagos, Maldivé Islands, Sri Lanka, Penang and Australia (Cape Jaubert, Shark Bay, Brown Station & Port Denison).

In other Oceans.—Great Barrier Reef, Queensland, Fiji Islands, Philippines, Japan, West Indies, Cape Verde Islands, Ascension, Tristan da Gunha, Indo-China, Java, Rotuma, Funafuti, Honolulu, California, East coast of S. America, Costa Rica and Gulf of Guinea.

***Phascolosoma pacificum* Keferstein**

1867. *Phascolosoma pacificum* Keferstein, *Z. wiss. Zool.*, **17**: 49-50.
 1883. *Phymosoma pacificum*: Selenka et al., *Semper's Reisen im Archipel der Philippinen*, (2) **4**(1): 63.
 1898. *Physcosoma pacificum*: Shipley, *Proc. zool. Soc. London*, **3**: 470.
 1902. *Physcosoma pacificum*: Sluiter, *Siboga Exped.*, **25**: 11.
 1903. *Physcosoma pacificum*: Augener, *Arch. Naturgesch.*, **69**: 300.
 1903. *Physcosoma pacificum*: Shipley, In Gardiner, *Fauna and Geography of the Maldivé and Laccadive Archipelagoes*, **1**(2): 134.
 1913. *Physcosoma pacificum*: Fischer, *Mitt. naturh. Mus. Hamb.*, **31**: 6.
 1922. *Physcosoma pacificum*: Fischer, *Wiss. Ergebn dt. Tiefsee-Exped. "Valdivia"*, **22**(1): 8.
 1952. *Physcosoma pacificum*: Stephen & Robertson *Proc. R. Soc. Edinb.*, Sec. B, **64**: 436.
 1957. *Phascolosoma pacificum*: Wesenberg-Lund, *Bull. Sea Fish. Res. Stn. Israel*, No. **14**: 6-7.
 1959. *Phascolosoma pacificum*: Wesenberg-Lund, *Vidensk. Meddr. dansk naturh. Foren.*, **121**: 62-63.

Material.—1 ex., Campbell Bay, Great Nicobar, A. Daniel, 3.3.66; 3 exs., Eastern side of Rangat Bay, M. Andaman, "from dead coral block", B. P. Haldar, 22.10.72.

Description.—Maximum length and width 160 mm. and 25 mm. respectively; introvert partially retracted, about as long as trunk, bearing more than 70 rows of sharp but strongly curved hooks; colour of trunk brown with scattered dark brown mottling but band-like in introvert region; skin thick, opaque and rough; longitudinal muscle bands

28 at introvert base but 34 at posterior part of trunk, anastomosing frequently; 4 retractor muscles, dorsal and ventral ones of each side fused together for most of their length; intestinal spirals 15, last one attached to body wall by a fixing muscle; polian villi poorly developed; nephridia long, reaching upto posterior end of trunk; nephridiopores lie in front of anus.

Distribution.—In the Indian Ocean: Red Sea (Kosier, Eylath, Fanadir & Ghardaqa), Gulf of Auaba, Zanzibar, Madagascar, Mauritius, Ghagos, Laccadive and Maldiv Islands and Waingapu.

In other Oceans.—Formosa, Queensland, Rotuma, Funafuti, Loyalty Islands, Philippines, New Guinea, Fiji Islands, Banda Neira, Yap, Makassar, Amboina, Marquesas, Upolu and Recif Polo Kalapa.

Phascolosoma scolops (Selenka and de Man)

1883. *Physcosoma scolops* Selenka et al., *Sempere's Reisen im Archipel der Philippinen*, (2)4 (1): 75.
1892. *Phymosoma scolops*: Fischer, *Jb. hamb. wiss. Anst.*, 9: 86.
1898. *Physcosoma (Phymosoma) scolops*: Sluiter, *Zool. Jb. Syst. Abth.*, 11: 443-444.
1902. *Physcosoma scolops*: Sluiter, *Siboga Exped.*, 25: 12.
1902. *Physcosoma scolops*: Shipley, In Herdman, *Rep. Govt. Ceylon Pearl Oyster Fish. Gulf Mannar*, suppl. rept., No. 2: 174.
1903. *Physcosoma scolops*: Shipley, In Gardiner, *Fauna and Grogaphy of the Maldive and Lacadive. Archipelagoes*, 1(2): 135.
1903. *Physcosoma scolops*: Augener, *Arch. Naturgesch.*, 69: 300.
1904. *Phymosoma scolops*: Hérubel, *Bull. Mus. Hist. nat.*, 10: 563.
1905. *Physcosoma scolops*: Lanchester, *Proc. zool. Soc. London*, 1: 28, 30, 36.
1912. *Physcosoma scolops*: Fischer, *Mitt. naturh. Mus. Hamb.*, 30: 98.
1915. *Phymosoma scolops*: Hammerstein, *Ark. Zool.*, 9(10): 1-2.
1922. *Physcosoma scolops*: Benham, *Scient. Rep. Australas. Antarct. Exped.*, 100(6): 20.
1942. *Physcosoma scolops*: Stephen, *Ann. Natal Mus.*, 10(2): 248-249.
1952. *Physcosoma scolops*: Stephen & Robertson, *Proc. R. Soc. Edinb.*, Sec. B, 64: 436-437.
1957. *Phascolosoma scolops*: Wesenberg-Lund, *Bull. Sea Fish. Res. Stn. Israel*, No. 14: 5.
1965. *Phascolosoma scolops*: Stephen, *Israel South Red Sea Exped.*, rept. No. 17: 83.
1965. *Phascolosoma scolops*: Cutler, *Cah. ORSTOM Oceanographie*, 3(4): 57-58.
1969. *Phascolosoma scolops*: Stephen & Cutler, *Trans. R. Soc. S. Afr.*, 38: 116.

Material.—2 exs., Aberdeen Bay, S. Andaman, “found under stones”, H. S. Rao, 10.1.24; 3 exs., Galathea river entrance, Great Nicobar Islands, A. Daniel, 25.3.66; 2 exs., Aves Island, N. Andaman, “by breaking the corals”, B. P. Haldar, 16.10.72.

Description.—Length ranges from 25 to 35 mm.; skin, in general, opaque, reddish brown in colour but rough at introvert base and distal end of trunk due to presence of tall, conical papillæ; a few dark bands visible on dorsal side of introvert, armed with hooks arranged in circlets varying in number from 15 to 20, having clear narrow streak inside and height slightly greater than breadth at base; papillæ elliptical

in shape and consist of densely packed polygonal plates; longitudinal muscle bands separated into 20 to 22 rarely anastomosing bundles; 2 pairs of retractor muscles, not arising from same level, ventral pair stronger than dorsal pair; intestinal spirals 12 to 16, rectal diverticulum absent; nephridia long, anterior one-third fixed to body wall by mesenteries.

Distribution.—In the Indian Ocean: Red Sea (Koseir, Eritrea, Goliath Bay & Enteraia Island), Gulf of Suez, Gulf of Aqaba (Ghardaqa & Eylath), Zanzibar, Tanzania, S. Africa (East London, Durban, Inhaca Island, Delago Bay, Kosi Bay, Port Edward, Port Alfred & Natal), Off Mozambique, Madagascar, Lakshadweep and Maldivé Islands, Sri Lanka, Penang, Singapore, Christmas Islands, Sumbawa, Timor and Tasmania.

In other Oceans.—Japan, Philippine, Java, Funafuti, Loyalty Islands, New Zealand, New Britain, Billiton, Germany, France, West Indies, Port Jackson, Sydney, St. Berthelemy, Gold Coast, Sao Thome, Annobon Island, Belgium Congo and Ascension.

Family ASPIDOSIPHONIDAE

Paraspidosiphon klunzingeri (Selenka & de Man)

1883. *Aspidosiphon klunzingeri* Selenka et al., *Semper's Reisen im Archipel der Philippinen*, (2) 4 (1): 115.
 1898. *Aspidosiphon klunzingeri*: Sluiter, *Zool. Jb. Syst. Abth.*, 11: 444.
 1904. *Aspidosiphon klunzingeri*: Hérubel, *Mem. Soc. zool. Fr.*, 20: 564.
 1957. *Aspidosiphon klunzingeri*: Wesenberg-Lund, *Bull. Sea Fish. Res. Stn. Israel*, No. 14: 8.
 1964. *Paraspidosiphon klunzingeri*: Stephen, *Ann. Mag. nat. Hist.*, (13) 7 (80): 459.

Material.—2 exs., North side of east end of Macpherson's Strait near Gheringatapam, Baratang, S. Andaman, "breaking down the rock with hammer", *H. S. Rao*, 20.1.24; 1 ex., Havelock Island, S. Andaman, "from coral rock area", *B. P. Haldar*, 9.10.72.

Description.—Maximum length and width 65 mm. and 5 mm. respectively; slender introvert nearly as long as trunk length bearing more than 40 rows of small hooks and behind that hooked region spines arranged irregularly; hooks single pointed and having clearly differentiated streaks; longitudinal muscle bands divided into 38 anastomosing narrow bundles visible externally and in introvert region these bundles fused to form a continuous sheet; a single retractor muscle arising in front of caudal shield covering about 20 longitudinal muscle; nephridia long, reddish in colour and partly fixed to body wall.

Distribution.—In the Indian Ocean: Red Sea, Djibouti Bay, Gulf of Aden, Gulf of Aqaba and Durban.

In other Oceans.—Great Barrier reef, Rotuma, Funafuti, New Britain, Loyalty Islands, Amboina, Moluccas, Philippines and Cape Verde Islands.

Paraspidosiphon steenstrupii (Diesing)

1859. *Aspidosiphon steenstrupii* Diesing, *Sber. Akad. Wiss. Wien, math. naturwiss.*, **37**: 767.
1883. *Aspidosiphon steenstrupii*: Selenka et al., *Semperis Reisen im Archipel der Philippinen*, (2) **4** (1): 116.
1902. *Aspidosiphon steenstrupii*: Sluiter, *Siboga Exped.*, **25**: 18.
1902. *Aspidosiphon steenstrupii*: Shipley, In Gardiner, *Fauna and Geography of the Maldive and Laccadive Archipelagoes*, **1** (2): 131-132.
1903. *Aspidosiphon steenstrupii*: Shipley, In Herdman, *Rep. Govt. Ceylon Pearl Oyster Fish. Gulf Mannar*, suppl. rept., No. **2**: 171.
1904. *Aspidosiphon steenstrupii*: Hérubel, *Bull. Mus. Hist. nat.*, **10**: 564.
1905. *Aspidosiphon steenstrupii*: Lanchester, *Proc. zool. Soc. London*, **1**: 39.
1914. *Aspidosiphon steenstrupii*: Hammerstein, *Ark. Zool.*, **9**(10): 1.
1922. *Aspidosiphon steenstrupii*: Fischer, *Ark. Zool.*, **14**(19): 1.
1942. *Aspidosiphon steenstrupii*: Stephen, *Ann. Natal Mus.*, **10**(2): 253.
1952. *Aspidosiphon steenstrupii*: Stephen & Robertson, *Proc. R. Soc. Edinb.*, Sec. B, **64**: 441.
1964. *Paraspidosiphon steenstrupii*: Stephen, *Ann. Mag. nat. Hist.*, (13) **7** (80): 459.

Material.—2 exs., Campbell Bay, Nicobar Islands, *A. Daniel*, 6.3.66; 1 ex., Malacca village, Car Nicobar Islands, *K. K. Tiwari*, 23.3.59; 2 exs., Sesostris Bay, near South Point, Port Blair, S. Andaman, "living in holes in coral", *H. C. Ray*, 16.3.52. 2 exs; Ganatikri, N. Andaman, "from coral crevices, associated with polychaete, *Nereis* sp.", *B. P. Haldar*, 14.10.72.

Description.—Length ranges from 30 to 40 mm.; introvert and trunk nearly equally long; general colour yellowish brown but anal and caudal shields dark brown; anal shield flat, granulated and furrowed; body covered with numerous papillae formed by densely aggregated polygonal plates; longitudinal muscle grouped into 20 rarely anastomosing bundles visible from outside; retractor muscle originating from posterior end of trunk by two roots but fused after running for a short distance; rectal diverticulum present but fixing muscle absent; nephridia long, proximal halves attached to body wall but posteriorly reaching to roots of retractor muscle.

Distribution.—In the Indian Ocean: Durban, Madagascar, Zanzibar, Djibouti, Mauritius, Gulf of Mannar, Lakshadweep & Maldive Islands, Penang, South coast of Java and Timor.

In other Oceans.—Japan, Great Barrier reef, Loyalty Islands, New Guinea, Cape Verde Islands, St. Helena, West Indies, Brazil, Bahamas and Eastern North America.

REMARKS ON DISTRIBUTION

The Sipuncula of the Andaman and Nicobar Islands is still far from well known despite the fact that 21 species of Sipuncula has been recorded recently. This constitute only 15.5% of the known species occurring in the Indian Ocean. Material of Johnson is exclusively from Port Blair area and that of Prashad is from either Port Blair and Nancowry Harbour or without any particular locality (Andamans and

Nicobars). But the localities indicated in this paper and earlier paper from various parts of two groups of Islands showing a wide range of distribution. Most of the species occur in the intertidal region and are shallow water forms occurring in sand, inside coral and calcareous rock platform except *Phascolosoma pacificum* Keferstein from deep water dealt elsewhere (Haldar, 1970). Hitherto collections were made from the eastern side of the Islands, thereby showing a trend of close relationship with Indo-Pacific species. All these species belong to warm temperate region but some of them range well into tropics in other oceans. Material at hand expect to add some more species to the list in near future. The western coast of these Islands were not surveyed with regards to this group, thus underlying the need for detail study.

SUMMARY

The present paper is a preliminary report on the collection of *Sipuncula* from the Andaman and Nicobar Islands, collected by different survey parties of the Zoological Survey of India. The material contained four genera and nine species. Six species are new records from the area. Brief description of each species given.

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